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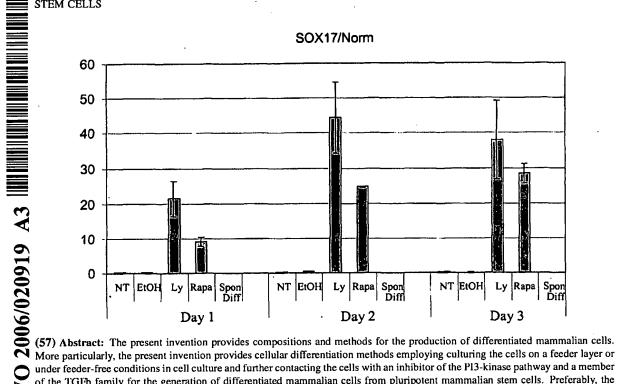
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[Continued on next page]

(54) Title: COMPOSITIONS AND METHODS FOR SELF-RENEWAL AND DIFFERENTIATION IN HUMAN EMBRYONIC STEM CELLS



under feeder-free conditions in cell culture and further contacting the cells with an inhibitor of the PI3-kinase pathway and a member of the TGPb family for the generation of differentiated mammalian cells from pluripotent mammalian stem cells. Preferably, the differentiated cell is selected from the group consisting of a mesendodermal cell, a mesodermal cell, and an endodermal cell.

WO 2006/020919 A3



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